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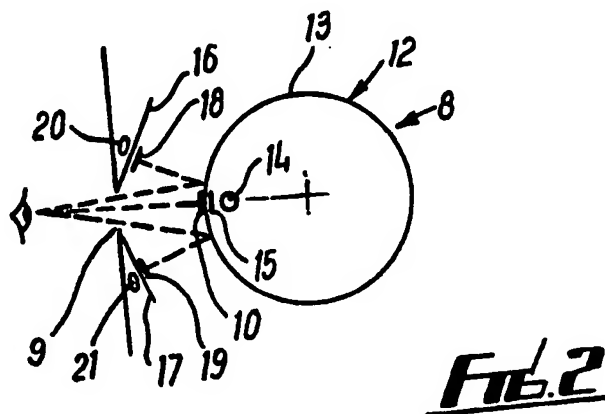
GB 2194093 A GB 2165387 A GB 2106292 A

(58) Field of search

**UK CL (Edition K) G4V VAA
INT CL⁵ G07F, G09F**

(54) Display of symbols on reels

(57) A device for a fruit machine comprises a rotatable reel (8) with primary symbols around its periphery. The reel (8) can be rotated and brought to rest with one of the symbols displayed through a window (9) of a fruit machine. The surface of the reel (8) is reflective and a supplementary symbol (18, 19) is concealed in a darkened region. The supplementary symbol (18, 19) can be illuminated with a lamp (20, 21) whereupon it then becomes visible, by reflection from the reel surface, on top of or alongside the primary symbol. The surface of the reel may be half-silvered so that supplementary symbols (15) can be seen when illuminated by lamp (14). The primary symbol may represent a playing card rank and the supplementary symbols may represent suits.



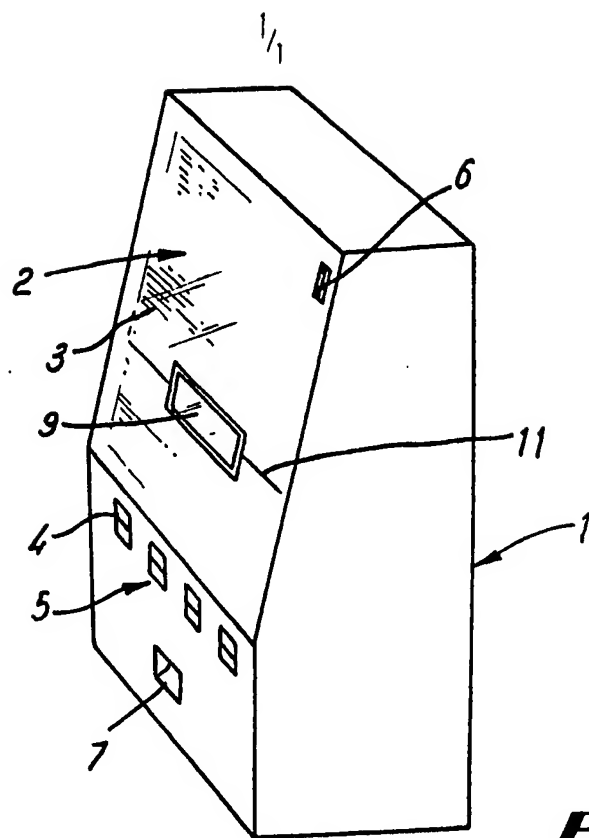


FIG. 1

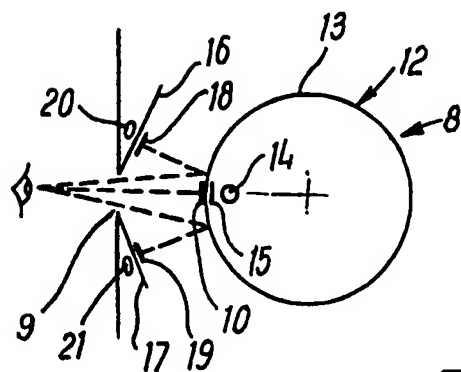


FIG. 2

(17533A)
(07.07.89)

- 1 -

SELECTOR DEVICE

This invention relates to a selector device particularly for an entertainment machine such as a fruit machine.

Fruit machines commonly have multiple side-by-side reels which
5 are rotatable about a common horizontal axis within a housing behind a window. Each reel has symbol zones at equi-spaced positions around its periphery and the reels can be brought to rest with one symbol zone on each reel displayed through the window on a horizontal win line. Usually the window is wide enough to permit display of three
10 symbol zones on each reel: the symbol zone on the win line, and the upper and lower adjacent symbol zones.

With the conventional arrangement, in practice, the number of symbols which can be displayed through the window and therefore the range of symbols available for win evaluation purposes, is limited.
15 That is, for each stopping position of each reel the range of symbols available for win evaluation purposes constitutes the (or each) symbol marked on the symbol zone on the win line possibly supplemented by the (or each) symbol marked on the adjacent upper and lower zones. This limitation can of course be readily overcome by using a vdu
20 selector device, but the reel type selector device is generally preferred by players of fruit machines possibly because the mechanical movement of the reel has the affect of reassuring the player of the 'fairness' or consistency of the manner in which selections are made (which generally is on a random basis).

25 An object of the present invention which is to provide a selector device which involves the movement of a selection member yet with

which the range of symbols displayed for selection purposes can be enhanced.

According to the invention therefore there is provided a selector device comprising a member which has primary symbols marked thereon
5 and which is movable relative to a display region through a plurality of stopping positions so as to display at said region one or more of said primary symbols at each said stopping position, characterised by the provision of at least one reflective surface, at least one illumination device, and at least one supplementary symbol, whereby such
10 supplementary symbol is viewable at the display region in one operational state of the illumination device.

With this arrangement, a said primary symbol (or symbols) can be selected by moving said member and then arresting the member in one of said stopping positions, and the selected primary symbol (or symbols)
15 can then be supplemented by appropriate actuation of the illumination device to render a said supplementary symbol (or symbols) viewable for example superimposed on or alongside the selected primary symbol (or symbols). In this way the range of symbols available for selection can be enhanced.

20 With regard to the reflective surface this may constitute the surface of the movable member. In this case the arrangement may be such that the (or each) supplementary symbol is in a darkened region viewable at the display region by reflection from the reflective surface whereby the supplementary symbol is only seen when illuminated with the
25 illumination device. In this case the supplementary symbol may be behind a half-silvered (i.e. part reflective) mirror whereby the symbol

can only be seen when the mirror is illuminated from behind. Alternatively or additionally the surface of the movable member may be half-silvered so that it ceases to appear to be reflective when illumination causes a supplementary symbol behind the surface of the movable member
5 to be seen and/or causes a supplementary symbol in front of the surface no longer to be seen by reflection.

With regard to the movable member, this may be any suitable structure which is movable in any suitable structure which is movable in any suitable manner. In one embodiment the member is a rotatable
10 drum or reel with the primary symbols marked around its periphery.

It is visualised that the selector device will find particular application in the context of an entertainment machine especially a coin (or token) operated entertainment machine such as a fruit machine, that is, a machine operable to play games in which a combination of
15 symbols is selected and displayed, usually on a random basis, whereby a win indication is given in the event that the selected combination constitutes one of a predetermined range of winning combinations.

The invention will now be described further by way of example only and with reference to the accompanying drawings in which:-
20 Fig. 1 is a diagrammatic representation of a fruit machine having selector devices in accordance with one embodiment of the invention; and
Fig. 2 is a diagrammatic representation illustrating the mode of operation of one such selector device.

25 Referring to the drawings, the illustrated fruit machine comprises a floor standing box-shaped housing 1 having a front wall 2 which

includes a screen printed glass sheet 3 and below this a series of operating buttons 4, 5 including a start button 4 and various other control buttons 5. There is also a coin slot 6 and a pay-out opening 7.

5 Within the housing 1 there are three axially aligned reels 8 having say 20 symbols 10 at regularly spaced positions around their peripheries. The reels 8 are axially rotatable and are drivably connected to respective stepper motors. The reels 8 are arranged behind a window 9 defined by a printed region of the glass panel 3. Each reel 8 can be arrested
10 by the respective stepper motor in any of 20 stepping positions in which one symbol 10 is in precise registration with a horizontal win line 11 in the centre of the window 9 and two further symbols 10 are visible above and below the win line 11.

The stepper motors are connected to a microprocessor-based control
15 unit. This unit is also connected to a coin-mechanism, a pay-out mechanism, the buttons 4, 5, and various lamps behind printed display regions of the panel 3 and lamps in the buttons 4, 5.

In use, then the player inserts coins into the coin mechanism through the slot 6 sufficient to generate credit for one or more games,
20 the machine is actuated so that a game can now be played. The game commences after the start button 4 has been pressed and the reels 8 spin and then come to rest so as to select a combination of symbols 10 displayed on the win line 11. The displayed symbol combination is assessed by the control unit and a win indication is given in the event
25 that the combination is of a predetermined winning nature.

The arrangement so far described is conventional. However, as

shown in Fig. 2, the reels 8 differ from those conventionally used.

With the conventional arrangement each reel 8 has a cylindrical periphery which has an opaque strip attached to its outer surface printed with the 20 symbols 10. With the present embodiment each
5 reel 8 has an openwork cylindrical periphery 12 which supports a half-silvered (i.e. part-reflective) strip 13 printed with 20 primary symbols 10 on its outermost surface. At a fixed position on the inner side of the cylindrical periphery 12 of the reel 8 in alignment with the window 9 there is a lamp 14 connected to the control unit. On the
10 inner surface of the half-silvered strip 13 there are printed 20 supplementary symbols 15 in alignment with the primary symbols 10.

Moreover, for each reel 8, above and below the window 9, between the window 9 and the reel 8, there are mounted inclined half-silvered mirrors 16, 17. Each mirror 16, 17 faces towards the reel 8 and has a
15 supplementary symbol 18, 19 marked on its front surface. Behind the rear surface of each mirror there is a respective lamp 20, 21 connected to the control unit.

With this arrangement, when the reel 8 is at rest, the displayed symbol 10 on the win line 11 can be modified by illuminating any one
20 of the three lamps 14, 20, 21. Thus if the lamp 14 is illuminated the supplementary symbol 15 on the rear surface of the reel strip 13 can be seen through the strip 13 on top of or closely alongside the primary symbol 10. If any one of the lamps 20, 21 is illuminated the respective supplementary symbol 18, 19 on the respective half-silvered mirror 16,
25 17 can be seen by reflection from the surface of the strip 13 on top of or closely alongside the primary symbol 10.

Illumination of the lamps 14, 20, 21 may be effected automatically under the control of the control unit and/or by operation of a player control button 5 and may occur in a random or predictable manner.

In this way, there are three possible modifications to the symbol
5 10 displayed on the win line 11 whereby the range of selectable symbols is enhanced. In total there may be four possibilities if there is also the possibility of none of the lamp 14, 20, 21 being illuminated. Correspondingly, in assessing the displayed symbol 10 for win evaluation purposes the control unit also takes into account which (if any) of the
10 lamps 14, 20, 21 is illuminated.

By way of example, the primary symbol 10 may be a printed or numerical symbol representing a playing card rank and the supplementary symbols 15, 18, 19 may represent suits. The supplementary symbols 15, 18, 19 may be arranged to superimpose
15 over, so as to override an existing suit indicator on the outer surface of the strip 13 so that all four suits can be represented.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

20 Thus, for example, provision may be made for illuminating combinations of the lamps 14, 20, 21 so that combinations of the supplementary symbols 15, 18, 19 can be viewed. Also, it is possible to use fewer or more lamps/half-silvered surfaces to give fewer or more possibilities for supplementary symbols on the win line 11 or
25 associated with the upper and lower primary symbols 10 as desired.

CLAIMS

1. A selector device comprising a member which has primary symbols marked thereon and which is movable relative to a display region through a plurality of stopping positions so as to display at said region one or
5 more of said primary symbols at each said stopping position, characterised by the provision of at least one reflective surface, at least one illumination device, and at least one supplementary symbol, whereby such supplementary symbol is viewable at the display region in one operational state of the illumination device.
- 10 2. A selector device according to claim 1 characterised in that the reflective surface constitutes the surface of the movable member.
3. A selector device according to claim 2 characterised in that the (or each) supplementary symbol is in a darkened region viewable at the display region by reflection from the reflective surface whereby
15 the supplementary symbol is only seen when illuminated with the illumination device.
4. A selector device according to claim 3 characterised in that the supplementary symbol is behind a part reflective mirror whereby the symbol can only be seen when the mirror is illuminated from behind.
- 20 5. A selector device according to claim 3 or 4 characterised in that the surface of the movable member is part reflective so that it ceases to appear to be reflective when illumination causes a supplementary symbol behind the surface of the movable member to be seen, and/or causes a supplementary symbol in front of the surface no longer to be
25 seen by reflection.
6. A selector device according to any one of claims 1 to 5 characterised

in that the movable member is a drum or reel with the primary symbols marked around its periphery.

7. A selector device according to any one of claims 1 to 6 when used in a coin (or token) operated entertainment machine.

5 8. A selector device according to any one of claims 1 to 6 when used in a coin (or token) operated fruit machine.

8. A selector device substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

9. An entertainment machine substantially as hereinbefore described
10 with reference to and as illustrated in the accompanying drawings.